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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09-937,033 | 09/21/2001 | Thierry Linossier | 1F-870 Cas 156 GF-AG | 6295 |

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| EXAMINER |
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MAYO III, WILLIAM H

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 2831 | |

DATE MAILED: 10/02/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|---------------------------------|--------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/937,033 | LINOSSIER, THIERRY |
| | Examiner William H. Mayo III | Art Unit 2831 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-12 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

| | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5</u> . | 6) <input type="checkbox"/> Other: _____ |

Application/Control Number: 09/937,033

Art Unit: 2831

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in National stage PCT Application No. PCT/FR00/00634, filed on March 16, 2000.

Information Disclosure Statement

2. The information disclosure statement filed September 21, 2001 has been submitted for consideration by the Office. It has been placed in the application file and the information referred to therein has been considered.

Specification

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Art Unit: 2831

4. The abstract of the disclosure is objected to because in lines 2 & 3, it contains the terms "comprises" and "comprising" respectively, which is improper language for the abstract. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 4 & 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 4 recites the limitation "the pairs of insulated conductor wires" in line 2

There is insufficient antecedent basis for this limitation in the claim because there has not been any previous reference to multiple pairs of insulated conductor wires in previous lines of the claims.

8. Claim 11 recites the limitation "the outer supporting sheath" in line 5. There is insufficient antecedent basis for this limitation in the claim because there has not been any previous reference an outer supporting sheath in previous lines of the claims.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-6 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fromion (Pat Num 5,663,660) in view of Smith (Pat Num 4,339,733). Fromion discloses a radiating cable (Figs 1-2) comprising a pair of conductor wires for use in a network (abstract). Specifically, with respect to claim 1, Fromion discloses a cable (4) comprising a pair of conductor wires (2 & 3) wherein at least one cable segment (left side of cable 4) has first ends (see highlights in Fig 2) connected to a load (i.e. interface, 8) equal to an impedance characteristic of the cable segment (left side of cable 4, Col 2, lines 61-64) and second ends (right side of cable 4) connected to a connector (i.e. linking station, 5). With respect to claim 2, Fromion discloses that at least two cable segments (right ends of cable 4) are connected in parallel configuration (denoted as 100). With respect to claim 3, Fromion discloses that the two cable segments (right side of cable 4) are identical (Fig 2). With respect to claim 4, Fromion discloses that the conductor wires are inserted in a supporting sheath (denoted as 200). With respect to claim 5, Fromion discloses that the conductor wires (2 & 3) are twisted together (Fig 2). With respect to claim 6, Fromion discloses that the conductor wires (2 & 3) are twisted at a pitch.

However, Fromion doesn't necessarily disclose the conductor wires being insulated (claim 1), nor the conductor wires being twisted at a pitch in the range of 15 to 30 times the diameter (claim 6), nor the cable including a dielectric tape in contact with the insulated conductor wires (claim 9), nor the cable further comprising metal tape helically wrapped without overlap around the conductor wires (claim 10), nor the

comprising metal tape helically wrapped without overlap around the conductor wires and extending between the dielectric tape and the outer supporting sheath (claim 11).

Smith teaches an improved radiating cable (Figs 1-3) that eliminates or minimizes degrading environments effects on the performance of the cable and significantly decreases attenuation along the transmission line (Col 1, lines 55-60). Specifically, with respect to claim 1, Smith teaches a cable (10, Fig 3) comprising insulated conductor (11 & 12). With respect to claim 9, Smith teaches a cable (10, Fig 3) comprising insulated conductor (11 & 12), that is surrounded by a dielectric (14), that may be a tape (i.e. laminate, Col 2, lines 13-19), which is in electrical contact with the insulated conductor (11 & 12). With respect to claim 10, Smith teaches that the cable (10) further includes metal tapes (15) that may be helically wrapped (Fig 3) without overlap around the insulated conductor (11 & 12). With respect to claim 11, Smith teaches that the cable (10) further includes metal tapes (15) that may be helically wrapped (Fig 3) without overlap around the insulated conductor (11 & 12) and extend between the dielectric tape (14) and the outer supporting jacket (16).

With respect to claims 1 and 9-11, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the cable of Fromion to comprise the conductor and cable configuration as taught by Smith because Smith teaches that such a configuration eliminates or minimizes degrading environments effects on the performance of the cable and significantly decreases attenuation along the transmission line (Col 1, lines 55-60).

Application/Control Number: 09/937,033
Art Unit: 2831

With respect to claim 6, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the twist pitch of modified Fromion to comprise a pitch in the range of 15 to 30 times the diameter, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

11. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fromion (Pat Num 5,663,660) in view of Smith (Pat Num 4,339,733, herein referred to as modified Fromion), as applied to claims 1, 4, & 7 above, and further in view of Paquin (Pat Num 4,413,469). Modified Fromion discloses a radiating cable (Figs 1-2) comprising a pair of conductor wires for use in a network (abstract) as explained above.

However, modified Fromion doesn't necessarily disclose the wires being twisted alternatively with right handed and with left handed twist (claim 7), nor the portion of the cable being twisted with right handed twisted being separated from a portion of cable with left handed twist by a portion of the cable that has parallel wires (claim 8).

Paquin teaches a cable (Fig 1) that reduces cross talk of twisted pairs of wires and precisely orientates the termination points of the conductors for simultaneous mass termination (Col 2, lines 10-15). Specifically, with respect to claim 7, Paquin teaches a cable (30) having insulated conductors (46 & 50), wherein the wires (46 7 50) may be twisted alternatively with right handed and with left handed twist (i.e. clockwise and counterclockwise, Col 6, lines 4-6). With respect to claim 8, Paquin teaches a cable (30) having insulated conductors (46 & 50), wherein the wires (46 7 50) may be twisted

alternatively with right handed and with left handed twist (i.e. clockwise and counterclockwise, Col 6, lines 4-6), wherein the portion of the cable (30) being twisted with right handed twisted (32) may be separated from a portion of cable with left handed twist (not shown) by a portion of the cable (30) that has parallel wires (34).

With respect to claims 7-8, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the cable of modified Fromion to comprise the conductor and cable configuration as taught by Paquin because Paquin teaches that such a configuration that reduces cross talk of twisted pairs of wires and precisely orientates the termination points of the conductors for simultaneous mass termination (Col 2, lines 10-15).

Allowable Subject Matter

12. Claim 12 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
13. The following is a statement of reasons for the indication of allowable subject matter: This invention deals with a radiating cable having two wires of the wire pair that differ in conductor diameter, conductor structure, and thickness of the insulation surrounding the conductors (claim 12). This claim limitation, in combination with other claim limitations, is not taught or suggested by the prior art of record.

Art Unit: 2831

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They are Harman et al (Pat Num 5,427,270) and Maki (Pat Num 4,432,193), both of which disclose radiating cables.

Communication

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Mayo III whose telephone number is (703)306-9061. The examiner can normally be reached on M-F 8:30am-6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (703) 308-3682. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3432 for regular communications and (703)305-3431 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


WHM III
September 29, 2002